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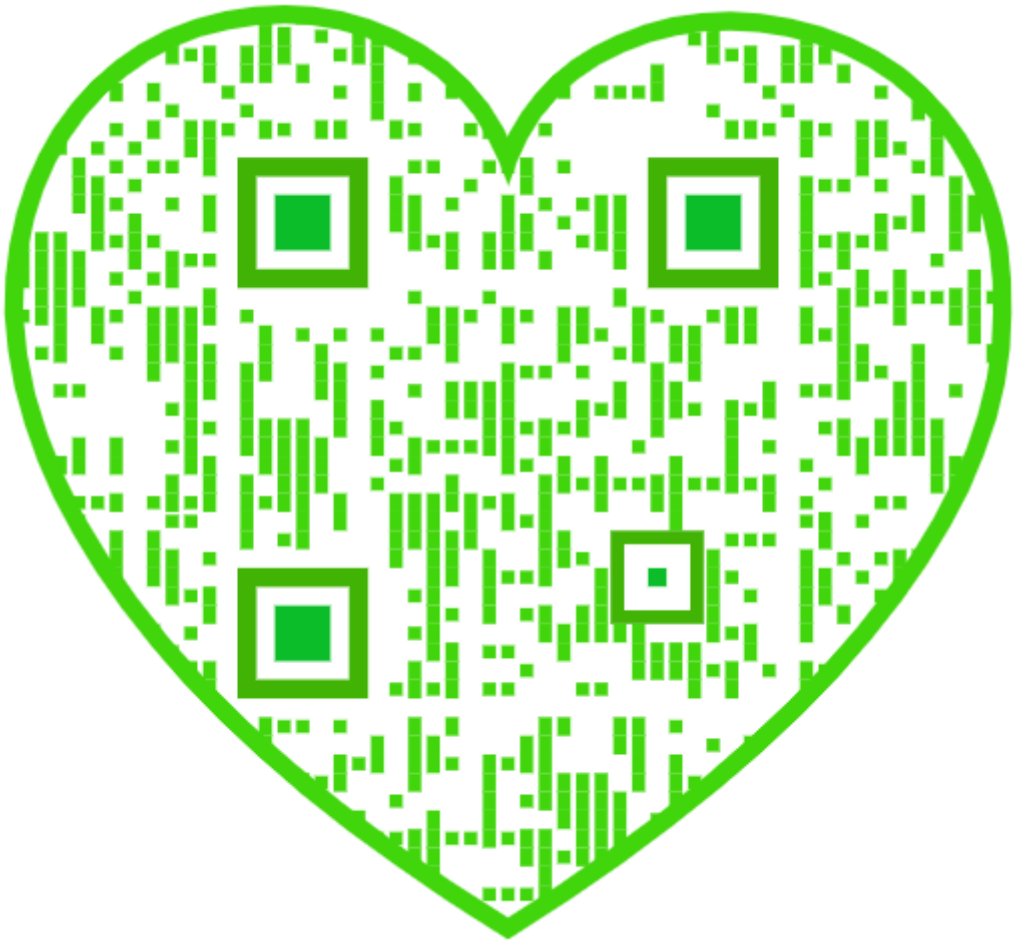
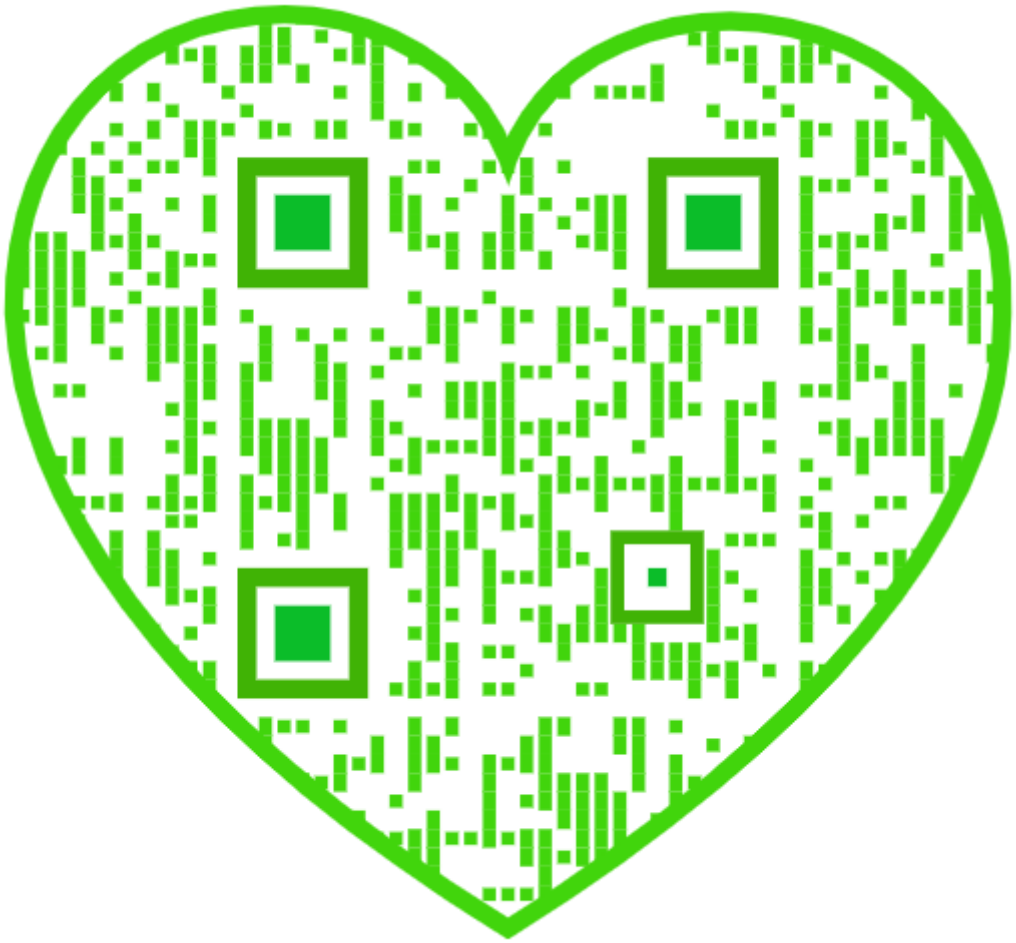
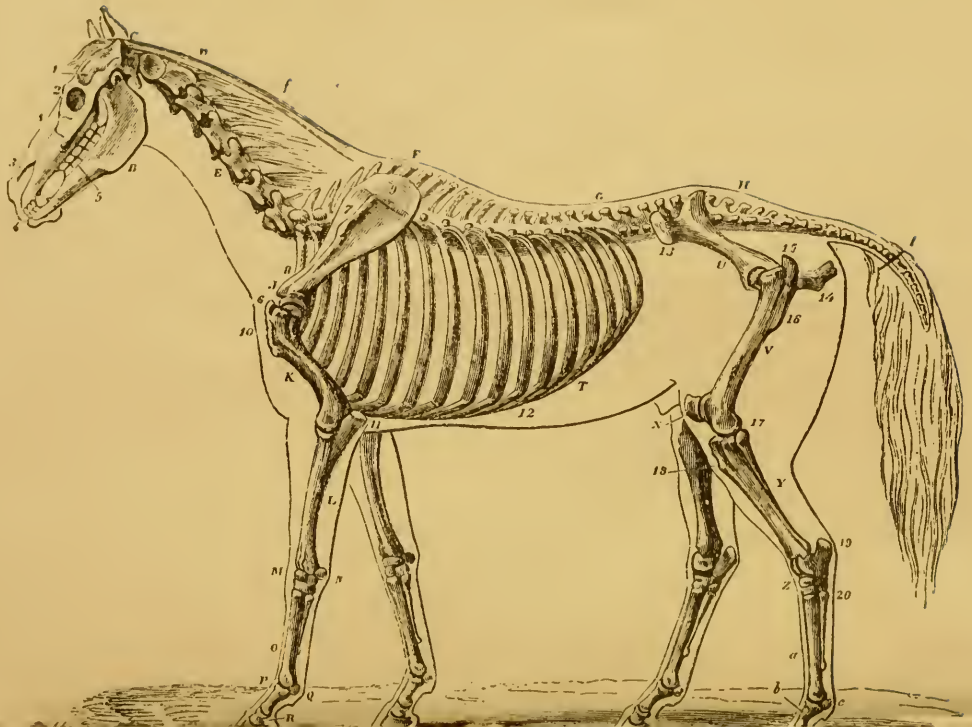






SKELETON OF THE HORSE.

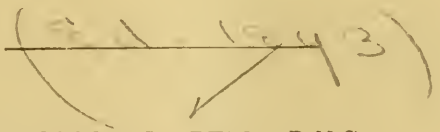
A. Head.
B. Lower jaw.
C. Atlas, or 1st vertebra of neck.
D. Axis, or 2d vertebra of neck.
E. The remaining five cervical vertebræ.
F. Spinous processes of the back or withers.
G. Dorsal and lumbar vertebræ.
H. Sacrum, base of the croup.
I. Coccygeal, or tail-bones.
J. Scapula, or shoulder-blade.
K. Humerus, or arm-bone.
L. Radius, or bone of the fore-arm.
M. Carpal, or knee-bones.
N. Trapezium.
O. Metacarpal, or canon-bone.
P. First phalanx, or pastern bone.
Q. Sesamoid bone.
R. Second phalanx, or os coronæ.
S. Third phalanx, or os pedis.
T. Ribs.
U. Os innominata, or haunch-bone.
V. Femur, or thigh-bone.
X. Patella.
Y. Tibia, or leg-bone.
Z. Hock, or tarsal-bones.
a. Canon, or metatarsal-bone.
b. First phalanx, or pastern-bone.
c. Sesamoid.
d. Second phalanx, or coronet bone.
e. Third phalanx, or foot bone.
f. Superior band of the cervical ligament or ligamentum nuchæ.
1. Zygomatic arch.
2. Orbital cavity.
3. Nasal, or face bones.
4. Incisor teeth.
5. Molar teeth.
6. Scapulo-humeral, or shoulder and arm joint.
7. Acromion process, or spine of the scapula.
8. Hollow of the shoulder-blade.
9. Cartilage of the shoulde-blade.
10. Superior tuberosity of the humerus.
11. Olecranon, or elbow-bone.
12. Cartilages of the ribs.
13. Haunch—external and anterior angle of the ilium.
14. Ischium—posterior angle of the ilium.
15. Great trochanter.
16. Small do.
17. Articulation between the femur and tibia.
18. Superior tuberosity of the tibia.
19. Os calcis.
20. Head of small metatarsal bone.

THE

VETERINARIAN'S CALL-BOOK

(PERPETUAL).

A VISITING LIST WHICH CAN BE COMMENCED AT ANY TIME AND USED UNTIL FULL, CONTAINING MUCH USEFUL INFORMATION FOR THE STUDENT AND BUSY PRACTITIONER.



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NEW YORK:
SABISTON & MURRAY,
Veterinary Publishers and Booksellers,
916 SIXTH AVENUE,
1893.

12393

SF 759
.B4
1893

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PREFACE.

In presenting this edition of 1893 of "The Veterinarian's Call-Book," the compiler takes pleasure in acknowledging the kind reception and popular support accorded by the profession of America to the maiden venture. Having proven itself to be so welcome an addition to the veterinary surgeon's business outfit, as well as a reliable reference work, it has been our aim for the edition of 1893 to make it even more valuable than its predecessor; and to this end, additional interesting matter and other improvements have been introduced, which it is hoped will endear it more to the practitioner and student.

On account of the difficulty in securing the co-operation of many of the secretaries of veterinary associations, it has been found impossible to present a perfect and complete roster of the various societies and other matters, and, rather than present this class of material in an imperfect shape, it has been deemed best to expunge it entirely, and to replace it by statistical and other subjects of reference.

Many veterinarians of large practice have found the "Call-Book" too small in its account department, and to meet this requirement a special edition will be issued, containing twice the number of pages that existed in the first edition.

It is believed that the issue of 1893 will be found more nearly approaching the ideal "Call-Book" than its predecessor, and it will be our aim to always keep it in touch with veterinary progress.

BROOKLYN, N. Y., Jan. 1, 1893. ROSCOE R. BELL.

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TABLE OF SIGNS.

The following table will be found a convenient and comprehensive method of keeping the call account in the diary. Each patient has a line, and each day its column. The marks on the margin below are intended to be made in the column under the proper date, and immediately on a line with the patient's name—thus preventing the possibility of overlooking an engagement made days ahead. For instance, for a visit to be made a diagonal line is drawn; when the visit has been made it is crossed; for a second visit made a second cross is made; if more than one patient is seen a figure indicating the number is placed in the upper arms of the cross, and so on.

Call to be made.

Call made.

Two calls made.

Two patients seen at one call.

Call made and medicine furnished.

Examination for soundness.

Office call.

Consultation held.

Surgical call made.

Night call.

COMMON ABBREVIATIONS USED IN PRESCRIPTION WRITING.

Abbreviation.	*Latin word.*	*English.*
āā	Ana	Of each.
ā̄ā̄ā̄	Amalgam	Amalgam.
Ad	Ad	To.
Ad—2 D	Ad duas doses	At two doses.
Ad saturand	Ad saturandum	Until saturated.
Ad lib.	Ad libitum	At pleasure.
Aq. tepid	Aqua tepida	Warm water.
Aq. ferv.	Aqua fervens	Hot water.
Aq. dest.	Aqua destillata	Distilled water.
Aq. font.	Aqua fontana	Spring water.
Bull.	Bulliat	Boil it.
C.	Congius	A gallon.
Cap.	Capiat	Take it.
Chart.	Chartula	A small paper (powder).
Coch.	Cochleare	A spoonful.
Coch. mag.	Cochleare magnum	A tablespoonful.
Coch. parv.	Cochleare parvum	A teaspoonful.
Colent.	Colentur	Let them be strained.
Collyr.	Collyrium	An eye-water.
Comp.	Compositum	Compounded.
Contus.	Contusus	Bruised or broken.
Div.	Divide	Divide.
F. or Ft.	Fiat or Fiant	Let there be made.
Fol.	Folium or Folia	A leaf or leaves.
Garg.	Gargarisma	A gargle.
Gr.	Granum or grana	A grain or grains.
Gtt.	Gutta or Guttæ	A drop or drops.
Haust.	Haustus	A draught.
Infus.	Infusum	An infusion.
M.	Misce	Mix.
Mass.	Massa	A mass.
Mist.	Mistura	A mixture.
O.	Octarius	A pint.
Pil.	Pilula or pilulæ	A pill or pills.
P.R.N.	Pro re nata	As demanded.
Pulv.	Pulvis or pulveres	A powder or powders.
Q.S.	Quantum sufficit	A sufficient quantity.
R.	Recipe	Take.
Rad.	Radix	A root.
S. or Sig.	Signa	Write.
Ss.	Semis	The half.
Tinct.	Tinctura	A tincture.

CHIEF VETERINARY DRUGS.

THEIR MOST PROMINENT ACTIONS, AND DOSAGE FOR VARIOUS ANIMALS.

[ABBREVIATIONS: H., *horse;* C., *cow;* D., *dog;* S., *sheep.*]

Acaciæ Gummis (Gum Acacia).—Demulcent and emollient. Dose immaterial.

Acetanilid.—Antipyretic and anti-rheumatic.

Acetum (Vinegar).—Styptic, astringent, diuretic and lithonthriptic. Externally cooling wash. H., ʒ i-ij; C., ʒ iii-iv; D., m xv-xxv; S., ʒ i-ij.

Acetum Cantharidum (Vinegar of Cantharides).—Externally as counter-irritant.

Acetum Scillæ (Vinegar of Squill).—Stimulating expectorant. D., m x-lx.

Acidum Aceticum (Acetic Acid).—Not given internally; the dilute internally has same action as vinegar. Externally, corrosive.

Acidum Arseniosum (Arsenious Acid).—Internally, tonic and alterative. Externally, caustic if pure; diluted, applied in skin diseases. H., gr. ij-vii; C., gr. v-xv; D., gr. $\frac{1}{16}$-$\frac{1}{8}$; S., gr. i-ij.

Acidum Benzoicum (Benzoic Acid).—Diuretic (excreting hippuric acid); stimulating expectorant. H. and C., ʒ iv-vi; D., gr. i-x.

Acidum Boricum (Boric Acid).—Externally as antiseptic.

Acidum Carbolicum (Carbolic Acid).—Antiseptic, deodorizer and disinfectant. Internally, given in anthrax fever, malignant strangles and purpura hæmorrhagica; also pyæmia and septic conditions. H., m x-xx; C., m x-lx; S., m v-x; D., m i. Externally caustic, and dilute (1 to 40 or 50 of water) antiseptic and disinfectant to wounds, etc.

Acidum Citricum (Citric Acid).—Diminishes thirst and allays restlessness. H., ʒ i.

Acidum Gallicum (Gallic Acid).—Vegetable astringent for systemic effects. H., gr. xv-lx; C., gr. xx-lxxx; D., gr. i-v.

Acidum Hydrobromicum Dilutum (Diluted Hydrobromic Acid).—Nerve sedative. D., ƒʒ i-ij.

Acidum Hydrochloricum (Hydrochloric Acid).—Externally as corrosive for canker and for removal of warts.

Acidum Hydrochloricum Dilutum (Diluted Hydrochloric Acid). —Tonic, astringent and antiseptic, and as antidote to poisoning by alkalies. H., ƒ℥ ss-ij ; C., ℥ ij-iv ; S., m x-xx ; D., m ij-x.

Acidum Hydrocyanicum Dilutum (Diluted Hydrocyanic or Prussic Acid). — Nerve sedative. H. and C., m xx-xl ; S., m v-xx ; D., m ii-iv. In coughs in dogs and in tetanus. Externally to allay pruritic irritation.

Acidum Nitricum (Nitric Acid).—Caustic for warts and warty growths.

Acidum Nitricum Dilutum (Diluted Nitric Acid).—Tonic, astringent and alterative. H. and C., ƒ℥ i-ij ; S., m xv-xx ; D., m ij-x.

Acidum Nitro-Hydrochloricum Dilutum (Diluted Nitro-Hydrochloric Acid).—Astringent, alterative and tonic. H. and C., ƒ℥ i-iii ; S., m x-xx ; D., ij-x.

Acidum Phosphoricum Dilutum (Diluted Phosphoric Acid).— Tonic to osseous, nervous and generative systems. H., ƒ℥ i iii ; D., m v-xxx.

Acidum Salicylicum (Salicylic Acid).—Antiseptic and disinfectant, antipyretic and antirheumatic. H., ℥ i-iii ; Calves, ʒij ; D., gr. x-xv.

Acidum Sulphuricum (Sulphuric Acid).—Externally, for removal of cancerous growths and warts.

Acidum Sulphuricum Dilutum (Diluted Sulphuric Acid).—Astringent, tonic, refrigerant and antiseptic ; useful in nearly the same cases as the dilute hydrochloric acid, being better in dysenteric fevers. H., ƒ℥ i-ii; C., ƒ℥ ii-iv; S., ƒ℥ ss-i; D., m iij-vi. Externally astringent, styptic and caustic.

Acidum Sulphuriosum (Sulphurous Acid). — Antiseptic, disinfectant and deoxydizant, given in malignant strangles, purpura, erysipelas, influenza. H. and C., ƒ℥ i-iss ; S., ƒ℥ ss-i ; D., m xx-xxx. Externally, disinfectant for stables, sheds and kennels in which animals suffering from infectious diseases have been kept.

Acidum Tannicum (Tannic Acid).—Internally, astringent and styptic. H., ℥ ss-ij ; C., ℥ i-iii ; S., gr. xv-xxx ; D., gr. ij-xx. Externally, styptic and astringent. Antidote to poisoning by many vegetable alkaloids.

Acidum Tartaricum—(Tartaric Acid).—See *Antimonii et Potassii Tartras.*

Aconitum (Aconite).—Cardiac, respiratory and spinal depressant ; diaphoretic, diuretic and antipyretic. Fleming's tincture: H., m v-xx ; C., x-xxx ; S., m v-x ; D., m i-v. Externally, anodyne.

Aconitina (Aconitine).—Same as *Aconite.* Dose not determined.

Adeps Benzoatus (Benzoated Lard).—Antiseptic vehicle for ointments.

Adeps Preparatus (Prepared Lard).—Internally, melted, as cathartic and demulcent. H. and C., lb. i-ij. Extensively as vehicle for ointments.

Æther (Sulphuric Ether).—Stimulant, antispasmodic, anodyne and anæsthetic. H., ƒ℥ i-ij ; C., ƒ℥ ii-iii ; S., ƒ℥ ij-iv ; D., ƒ℥ ss-i. Externally, refrigerant, anodyne and local anæsthetic. As anæsthetic it is given in form of vapor. H. and C., ƒ℥ iij-vi ; D., ƒ℥ iij-iv.

Aloe Barbadensis (Barbadoes Aloes).—Purgative, tonic, vermifuge and alterative. As cathartic: H., ℥ iv x ; C., ℥ vi-xv ; S.. ℥ ij-vii ; D., gr. x-℥ i. As tonic, one-tenth above doses.

Aloin—Same as *Aloes*. H., ℥ i-ij ; C., ℥ ij-iii ; D., gr. v-xxx.

Alumen (Alum).—Astringent and styptic. H. and C., ℥ ij-iv ; S., gr. x-℥ i ; D., gr. x-xx. Externally as styptic and astringent, and as eye-water.

Alumen Exsiccatum (Burnt Alum).—Mild caustic for controlling exuberant granulations.

Ammonii Carbonas (Carbonate of Ammonium).—Diffusible stimulant, useful in most debilitating inflammatory diseases. H., ℥ i-iii ; C., ℥ iii-vi , S., gr. xv-xxx ; D., gr. iii-viii. Also antacid, useful in dyspepsia and flatulent colic.

Ammonii Chloridum (Chloride or Muriate of Ammonium).—Stimulant, diuretic and diaphoretic, specially stimulating the heart, and serviceable about the crisis of diseases. H., ℥ iss-iii ; C., ℥ iv-vi ; S., ℥ i-ii ; D., gr. x-xx. Externally, with nitre, refrigerant.

Amyl Nitris (Nitrite of Amyl).—Nerve sedative, usually employed by inhalation. H., ℥ ss-i ; D., m ij-vi.

Amylum (Starch).—Demulcent and emollient. Antidote to iodine. Externally, protective and vehicle.

Anisi Fructus (Anise Fruit).—Aromatic, stomachic and carminative. H., ℥ i-ii ; C., ℥ ii-iv ; D., ℥ ij-iv. Chiefly used for flavoring condition powders.

Anthemidis Flores (Chamomile Flowers).—Aromatic, stomachic and tonic. H., ℥ i-ij ; S., i-ij.

Antimonii et Potassii Tartras (Tartar Emetic).—Sedative, antiphlogistic, alterative, expectorant, diaphoretic, vermifuge and emetic. H., ℥ i-iv ; D., gr. ⅛-gr. ij. Externally severe caustic.

Antipyrinum (Antipyrine).—Antipyretic. H., ℥ ss-i ; D., gr. iii-viii.

Apomorphiæ Hydrochloras (Hydrochlorate of Apomorphine).—Emetic. D., hypodermically, gr. $\frac{1}{10}$; by mouth, gr. $\frac{1}{5}$.

Arecæ Semina (Areca Nuts or Seed).—Anthelmintic. H., ℥ iv-viii ; D., gr. xx-℥ ij.

Argenti Nitras (Nitrate of Silver).—Tonic, astringent and stimulant. H. and C., gr. v-x ; D., gr. ⅛-¼. Externally, caustic; collyrium.

Arnicæ Rhyzoma (Arnica Rhyzome).—Internally, slight stimulant. H., ʒ ss-i of tincture ; D., m v-x of tincture. Externally, stimulant for sprains, bruises, etc.

Asafœtida.—Stimulant to digestion, antispasmodic and vermifuge. H., ʒ iii-iv ; C., ʒ i-ii ; D., gr. x-xv.

Atropina (Atropine).—Anodyne and antispasmodic. H., gr. ½-1 ; S., gr. $\frac{1}{10}$; D., gr. $\frac{1}{40}$-$\frac{1}{30}$. Hypodermically, one-tenth of the above doses.

Balsamum Peruvianum (Balsam of Peru).—Used in dog practice as an acaricide and to subdue irritation and itching. Also in the preparation of Friar's Balsam.

Balsamum Tolutanum (Balsam of Tolu).—To allay coughs in dogs, and as an external agent in skin diseases.

Belæ Fructus (Bael Fruit).—Astringent for diarrhœa and dysentery in foals and calves. Of the liquid extract—H., ƒʒ ij-iv ; Foals, ʒ i-ij ; Calves, ƒʒ i-iii.

Belladonnæ Radix (Belladonna Root).—Anodyne, antispasmodic and sympathetic nerve stimulant. Of the extract of the root —H., ʒ i-ij ; C., ʒ ij-iii ; D., gr. ij-iv.

Benzoinum (Benzoin).—Antiseptic, disinfectant and stimulant to wounds.

Bismuthum Subnitras (Subnitrate of Bismuth). — Allays irritation in dyspepsia, vomiting and gastro-intestinal catarrh in dogs. Externally, to allay irritation in wounds and sores. H., ʒ i-ij ; D., gr. iii-x.

Borax.—See *Acidum Boricum*.

Calcii Carbonas Precipitata (Precipitated Carbonate of Calcium; Prepared Chalk).—Antacid for diarrhœa, dysentery and indigestion. H., ʒ i-ii ; C., ʒ ii-iv ; S., ʒ ii-iv ; D., gr. x-xx.

Calcii Hydras (Hydrate of Calcium ; Caustic Potash).—Antacid. Externally, caustic. Usually given internally as lime water, the doses being—H., ƒʒ iv ; C., ƒʒ vi ; D., ƒʒ ij-viii.

Calcii Oxidum (Oxide of Lime ; Lime).—Applied to raw surfaces, is irritant, desiccant and caustic.

Calcii Phosphas (Phosphate of Lime).—Tonic to nervous and osseous systems. H. and C., ʒ i-iii ; S. and D., gr. v-x.

Calumba Radix (Calumba Root).—Stomachic, bitter and tonic. H., ʒ ss-i ; C., ʒ i-iii ; D., gr. v-xx.

Calx Chlorinata (Chlorinated Lime).—Disinfectant and deodorant. H., ʒ i ; C., ʒ i-ii ; D., gr. i-iii.

Camphoræ (Camphor).—Stimulant, diaphoretic, anodyne, antiseptic and carminative. H., ʒ i ii · C., ʒ i-ii ; D., gr. v-x.

Cannabis Indica (Indian Hemp).—Soporific, anodyne and antispasmodic. Extract—H., ʒ i-ij; D., gr. ½-i.

Cantharidis (Spanish Flies).—Diuretic and aphrodisiac. H., gr. iii-vi; D., gr. ½-ij. Externally, counter-irritant.

Capsici Fructus (Red Pepper).—Stomachic, carminative and stimulant. H., gr. x-xxx; C., gr. xx-ʒ i; D., gr. i-ii.

Carbo-Animalis (Bone Charcoal).—Absorbent. Dose, immaterial. Externally, used in drying powders and to darken ointments, etc.

Carbo-Ligni (Wood Charcoal).—Deodorizer and disinfectant. Internally, used as an absorbent of intestinal gases. H., ℈ ss-i; C., ʒ ss-ʒ i; D., gr. xv-xxxx. Externally, as drying powder.

Cardamomi Semina (Cardamom Seeds).—Carminative and aromatic.

Caryophyllum (Clove).—Oil is stomachic, carminative, stimulant and antispasmodic. H., ʒ ss-i; D., m i-iii. Externally, stimulant.

Cascara Sagrada.—Cathartic for dogs. M x-ʒ ij. Smaller doses are stomachic and tonic.

Cascarilla Cortex (Cascarilla Bark).—Aromatic bitter stomachic. H., ʒ iii-iv; C., ℈ i; D., gr. x-xxxx.

Catechu.—Vegetable astringent. H., ʒ i-iii; C., ʒ ii-vi; D., gr. v-xv.

Cera Flava (Yellow Wax).—In making ointments.

Chirata (Chiretta).—Aromatic bitter. Dose, same as the bitters.

Chloralis Hydras (Hydrate of Chloral).—Hypnotic, antispasmodic, anodyne, antiputrescent and antiseptic. H., ʒ iii-viii; C., ℈ i-ʒ ij; D., gr. x-xx.

Chloroformum (Chloroform).—Anæsthetic, antispasmodic, anodyne and stimulant. As an anæsthetic—H. and C., ℈ iii-vi; D., ʒ iv-ʒ i. As internal remedy—H. and C., ʒ i-iv; D., m iii-vi. Externally, antispasmodic and anodyne.

Chrysarobinum (Chrysarobin).—Useful in scaly skin diseases in ointments.

Cinchonæ Cortex (Flava, Rubra and Pallida).—Tonic, antipyretic, antiperiodic and antiseptic. H., ʒ ii-v; C., ℈ i-ii; D., gr. x-ʒ i.

Cinnamomi Cortex (Cinnamon Bark).—General purposes of aromatics.

Coca.—Tonic. Dose, immaterial.

Cocainæ Hydrochloras (Hydroclorate of Cocaine).—Local anæsthetic.

Coccus (Cochineal).—Coloring material.

Colchici Cormus and *Semina* (Colchicum Corm and Seeds).—Antirheumatic and diuretic. H., ʒ ss-i; C., ʒ i-ii; D., gr. ii-v.

Collodium (Collodion).—Protective for wounds.

Colocynthidis Pulpa (Colocynth Pulp). Hydragogue purgative.

Confectio Rosæ Gallicæ (Confection of Roses).—For making dog pills.

Conii Folia and *Fructus* (Hemlock Leaves and Fruit).—Sedative and antispasmodic. Tincture—H., ʒ ii ; C., ʒ iii ; D., ʒ i-ii.

Copaiba.—Stimulant and disinfectant of genito-urinary apparatus. H. and C., ʒ i-ii ; D., ʒ i.

Creasotum (Creosote).—See *Acidum Carbolicum.*

Creolin.—Antiseptic, disinfectant and deodorizer. Serviceable for bathing wounds, ulcers, etc. Parasiticide, and being non-poisonous, may be freely used upon the skins of dogs with impunity. Solutions of various strengths.

Cubeba (Cubebs).—Stomachic and diuretic. H., ʒ ii-iv ; C., ʒ iv-ʒ i ; D., ʒ ss-i.

Cupri Sulphas (Sulphate of Copper ; Blue Vitriol ; Blue Stone).—Astringent, tonic, antiseptic and emetic. As an astringent—H. and C., ʒ ss-i ; D., gr. ½-ii. As an emetic—Pigs, gr. x-xv ; D., v-x. Externally, caustic and astringent.

Cusso (Kousso).—Anthelmintic for tapeworm. Infusion—D., ʒ i-iv.

Digitalis Folia (Foxglove Leaves).—Heart stimulant and diuretic. Powdered leaves—H., gr. x-xxxx ; C., gr. xxx-ʒ i ; D., gr. i-iii. Fluid extract—H., m xv-xxx ; D., m i-iii.

Ergota (Ergot).—Ecbolic, vascular constrictor. H., ʒ ss-i ; D., ʒ i.

Ergotinum (Ergotin).—Same as *Ergot.* Hypodermically—H., gr. x ; C., gr. xx-xxx.

Eserina (Eserine).—Cathartic. H. (intratracially or subcutaneously), gr. iss-iii. Collyrium.

Eucalyptol.—Stimulant and antiseptic, antiperiodic. H., ƒʒ i ; D., m ij-iv. Externally, with ointments for wounds, etc.

Euphorbium—Externally, as counter-irritant.

Ferri Arsenias (Arseniate of Iron).—Tonic and alterative. H., gr. v-x.

Ferri Carbonas Saccharata (Saccharated Carbonate of Iron).—Tonic. H., ʒ i-ii ; D., gr. v-x.

Ferri et Ammonii Citras (Citrate of Iron and Ammonia).—Tonic. H., ʒ iss-ii ; D., gr, v-x.

Ferri et Quiniæ Citras (Citrate of Iron and Quinine).—Tonic. H., ʒ i-ii ; D., gr. v-x.

Ferri Peroxidum Hydratum (Hydrated Peroxide of Iron).—Antidote to poisoning by arsenic. H., ʒ i-ii (repeated every fifteen minutes).

Ferri Phosphas (Phosphate of Iron).—Tonic to osseous system.

Ferri Sulphas (Sulphate of Iron ; Green Vitriol ; Copperas).—Tonic, vermifuge. H., ʒ i-ii ; C., ʒ ii-iii ; S., gr. x-xv ; Pigs, gr. x-xx ; D., gr. v-x.

Ferrum Redactum (Reduced Iron).—Tonic. H., ʒ i.

Ferri Dialysatum (Dialyzed Iron).—Tonic. H., ʒ i-ij ; D., ʒ i-ii.

Filix Mas (Male Fern).—Anthelmintic. H. and C., ʒ viii ; S., ʒ iii-v ; D., ʒ ij.

Galbanum.—See *Asafœtida.*

Galla (Galls).—Vegetable astringents. H., ʒ iii-vi ; C., ʒ i-ij ; D., gr. v-x.

Gentianæ Radix (Gentian Root).—Bitter Tonic. H., ʒ ss-i ; C., ʒ i-iii ; S., ʒ ij-iii : D., gr. v-xx.

Glycerinum (Glycerine).—Nutrient and demulcent. As an anema is evacuent. Externally, emollient, excipient and preservative.

Gossypium (Cotton Wool).—Medicated with antiseptics, etc., and applied locally to wounds.

Gutta Percha.—For making surgical appliances.

Hæmatoxyli Ligni (Logwood).—Astringent.

Hydrargyri Ammonio-Chloridum (Ammonio-Chloride of Mercury).—Externally, in ointment as parasiticide.

Hydrargyri Iodidum Rubrum (Red Iodide of Mercury).—Counter-irritant for reduction of enlargements, etc.

Hydrargyri Oxidum Flavum (Yellow Oxide of Mercury).—Irritable skin. (Ointment, 16 gr. to lard ʒ i.)

Hydrargyri Oxidum Rubrum (Red Oxide of Mercury).—External caustic and absorbent.

Hydrargyri Perchloridum (Corrosive Sublimate).—Externally, caustic, antiseptic, disinfectant, antiparasitic.

Hydrargyri Subchloridum (Calomel).—Purgative (cholagogue), antiparasitic, emetic, alterative. As purgative—H., ʒ i (with other purgatives) ; D., gr. ij-viii.

Hydrargyri cum Creta (Mercury with Chalk).—Alterative and laxative. H., ʒ i ; Calves and Foals, gr. v-xv ; D., gr. iii-x.

Hyoscyami Folia (Henbane Leaves).—Hypnotic and antispasmodic. Extract—H., ʒ i ; S., gr. v-x ; D., gr. ii-v.

Hydrastis Canadensis (Golden Seal).—Laxative tonic. Tincture—H., ʒ ss-i.

Ichthyol.—Externally, for parasitic skin diseases. (One to eight of water or alcohol.)

Iodoformum (Iodoform)—Externally, as antiseptic to wounds and ulcers, in ointment, powders simply, or in combination with other healing powders. Insufflated in nostrils for gleet, etc.

Iodum (Iodine).—Not often given internally (its salts being preferable), except in diabetes insipidus. Externally the tincture is chiefly used. Of crystals—H., gr. xx-xxx ; C., ʒ ss-i ; D., gr. i-ij.

Ipecacuanha (Ipecac).—Stomachic stimulant, emetic, expectorant, specific in dysentery. Constituent of Dover's Powders. Emetic—D., gr. xv-xxx ; Dover's Powders—D., ʒ ij-iv.

Jaborandi (Pilocarpus).—Sudorific, sialagogue and antipyretic. Leaves—H., ʒ ii-iv ; D., ʒ ss-i. (See *Pilocarpine.*)

Jalapa (Jalap).—Hydragogue cathartic. D., ʒ ss-ii.

Kamala.—Anthelmintic. H., ʒ i-ij ; D., ʒ i-iii.

Kino.—Vegetable astringent. H., ʒ i-iii ; C., ʒ ii ; Calves, ʒ i ; D., gr. v-xv.

Lini Farina (Linseed Meal).—Nutrient.

Lini Semina (Linseed).—Demulcent for inflamed and irritable conditions of alimentary tract, laxative, nutrient, etc. ; in preparation of poultices, etc.

Linimentum Ammoniæ (Ammonia Liniment).—Solution of ammonia, ƒʒ i ; olive oil, ƒʒ iii.

Linimentum Camphoræ (Camphor Liniment).—Dissolve one part of camphor in four of olive oil.

Linimentum Camphoræ Compositus (Compound Camphor Liniment).—Dissolve twenty parts of camphor and one part of oil of lavender in one hundred and twenty parts of rectified spirits, and gradually forty parts strong solution of ammonia ; shake.

Linimentum Calcis (Liniment of Lime).—Mix one part solution of lime with one of olive oil.

Linimentum Chloroformi (Chloroform Liniment).—Mix one part of chloroform with one part of liniment of camphor.

Linimentum Opii (Opium Liniment).—Mix one part of tincture of opium and one part of liniment of turpentine, and filter.

Linimentum Sinapis (Mustard Liniment).—Mix four ounces mustard and five ounces oil of turpentine. Digest for ten days, and add four ounces linseed oil.

Linimentum Terebinthinæ (Turpentine Liniment).—Mix two parts soft soap with two parts distilled water ; dissolve one part of camphor in sixteen ounces oil of turpentine ; then rub together.

Liquor Ammoniæ (Solution of Ammonia).—Externally, rubefacient counter-irritant. Internally, diffusible stimulant and antacid. H., ʒ ss-i ; C., ʒ i-ij ; S., ʒ i-ij ; D,, m v-x—well diluted.

Liquor Ammonii Acetatis (Solution Acetate of Ammonia).—Diaphoretic and diuretic. H., ʒ ij-iv ; C., ʒ ij-iv ; D., ʒ ij-iv.

Liquor Antimonii Chloridi (Solution of Chloride of Antimony). Externally, caustic for thrush, canker, fistulous tracts. Alone or mixed with 1 to 2 parts compound tincture of myrrh.

Liquor Arsenicalis (Fowler's Solution).—Tonic, respiratory stimulant, discutient and alterative. Externally, in parasitic skin diseases. H. and C., ʒ ij-ʒ i ; S., ʒ ss-i ; D., m iv-x.

Liquor Arsenii et Hydrargyri Iodidi (Donovan's Solution).—Efficient in many forms of chronic skin diseases. H., ƒʒ ss-i.

Liquor Bismuthi et Ammonii Citratis (Solution of Citrate of Bismuth and Ammonia).—Useful for chronic indigestion in dogs. D., ƒʒ ss-i.

Liquor Calcis (Lime Water).—Antacid. H., ℥ iv-vi ; S., ℥ ss-ij ; D., ℥ i-iv.

Liquor Ferri Dialysatus (Solution of Dialyzed Iron).—Tonic. H., ℥ i-ij ; D., m xv-xx.

Liquor Plumbi Subacetatis (Goulard's Extract of Lead).—Externally, astringent, antiphlogistic and anodyne.

Liquor Potassii Permanganatis (Solution of Permanganate of Potassium).—Antiseptic, disinfectant and deodorant, for foul-smelling ulcers, wounds, etc.

Liquor Zinci Chloridi (Solution of Chloride of Zinc).—Externally, caustic and astringent.

Lobelia.—Diaphoretic, nauseant and expectorant. Tincture, H., ℥ iv-℥ i.

Magnesii Carbonas (Carbonate of Magnesium).—Antacid and laxative. D., Foals and Calves, ʒ ij-℥ i D. and Cats, ʒ ss-i.

Magnesii Oxidum (Oxide of Magnesium).—Same as *Magnesii Carbonas*.

Magnesii Sulphas (Epsom Salts).—Hydragogue cathartic for cattle and sheep ; febrifuge for horse. Antidote to poisoning by lead. As cathartic—C., lb. i-iss ; Calves, ℥ iii-iv ; S., ℥ i-iii ; D., ʒ i-iv. As febrifuge—H., ℥ ii-iii.

Morphinæ Acetas (Acetate of Morphine).—See *Opium*. By the mouth—H. and C., gr. v-xv ; S., gr. ½-ij ; D., gr. ⅛-½. Hypodermically—H. and C.. gr. iii-viii ; S., gr. ½-i ; D., gr. $\frac{1}{10}$-$\frac{1}{5}$.

Morphinæ Hydrochloras et Sulphas (Hydrochlorate and Sulphate of Morphine).—Same action and doses as *Morphinæ Acetas*.

Myrrha (Myrrh).—Externally, stimulant, astringent and deodorizer to wounds and ulcers. Internally, stimulating and disinfecting expectorant. H. and C., ʒ ij-iv ; S., ʒ ss-i ; D., gr. x-xxx.

Nux Vomica (Quaker Buttons).—Nerve stimulant and tonic, and stomachic. H., gr. xx-ʒ i ; S., gr. v-xx ; D., gr. ½-iv.

Oleatum Hydrargyri (Oleate of Mercury).—Externally, as counter-irritant and absorbent to bursal enlargements.

Oleum Cajuputi (Oil of Cajuput).—Stimulant, antispasmodic and diaphoretic. Externally, counter-irritant.

Oleum Caryophylli (Oil of Cloves).—Stomachic, carminative, antispasmodic and stimulant. Externally, counter-irritant.

Oleum Crotonis (Croton Oil).—Drastic cathartic. H., m xv-xx ; C., m xx-ʒ i ; S., m ij-vi ; D., m ½-iii. Externaly, escharotic.

Oleum Eucalypti (Oil of Eucalyptus).—Antipyretic and antiperiodic. Externally, antiseptic.

Oleum Lini (Linseed Oil).—Emollient, laxative and nutrient. Externally, emollient and convenient vehicle. H., O½-i ; C., Oj-ij ; S., ℥ iii-vi ; D., ℥ i-ij.

Oleum Morrhuæ (Cod Liver Oil).—Nutrient and alterative. H., ℥ ij-iii ; D., ℥ i-iv.

Oleum Olivæ (Olive or Sweet Oil).—Emollient, nutrient, laxative and preservative of alkaloids, etc.

Oleum Ricini (Castor Oil).—Purgative. H., Oj ; C., Oj-ij ; S., ℥ ij-iii ; Calves, ℥ iv-vi ; D., ℥ i-ij.

Oleum Sinapis (Oil of Mustard).—Externally, counter-irritant.

Oleum Terebinthinæ (Oil of Turpentine).—Stimulant, carminative, anthelmintic, antispasmodic, diuretic. H., ℥ i-ij ; C., ℥ i-ii ; S., ℥ i-iv ; D., m xxx-℥ i. Externally, counter-irritant.

Opium.—Narcotic, anodyne, antispasmodic and astringent. H., ℥ i-ij ; C., ℥ ij-iv ; S., gr. x-xxxx ; D., gr. ½-iv.

Pepsinum (Pepsin).—Digestive tonic. Foals and Calves, gr. xxx-xxxx ; D., gr. v-x.

Phosphorus.—Nerve stimulant and tonic.

Physostigmatis Semen (Calabar Bean).—See *Physostigmine*. H., gr. v-vii ; D., gr. ½-i.

Physostigmine (Eserine).—A quick cathartic, especially overcoming intestinal obstruction. Hypodermically or intratrachially—H. and C., gr. ½-ij. In tetanus, by mouth, H. and C., gr. $\frac{1}{6}$; D., gr. $\frac{1}{40}$-$\frac{1}{20}$; also locally to contract pupil.

Pilocarpine.—Sialagogue and diaphoretic, and in combination with physostigmine as a quick cathartic. Hypodermically—H., gr. ii-iii.

Pimento (Allspice).—Carminative and stomachic. H., ℥ ij-iv ; S., ℥ ss-i ; D., v-xxv.

Piper Nigrum (Black Pepper).—Stomachic. H., ℥ ii ; D., gr. v-x.

Pix Burgundica (Burgundy Pitch).—Used in making adhesive plasters.

Pix Liquida (Tar).—Externally, antiseptic, deodorant and stimulant.

Plumbi Acetas (Sugar of Lead).—Hæmostatic and astringent. H., ℥ ss-i ; C., ℥ i-ij ; Calves, gr. x-xv ; S., gr. v-x ; Lambs, gr. iii-v ; D., gr. ij-iv. Externally, astringent, antiphlogistic and sedative.

Podophylli Resina et Rhizoma (Resin and Rhizome of Podophyllum).—Hepatic stimulant and cholagogue cathartic. In combination with other purgatives. H., ℥ i-ij ; D., gr. i-ij.

Potassii Bicarbonas (Bicarbonate of Potassium).—Antacid and stomachic, mildly diuretic, saline expectorant and biliary stimulant. H. and C., ℥ ss-i ; S., ℥ i ; D., gr. x-xxx.

Potassii Bromidum (Bromide of Potassium).—Nerve sedative. H., ℥ ij-vi ; C., ℥ ij-℥ i ; D., gr. v-xv.

Potassii Carbonas (Carbonate of Potassium).—See *Potassii Bicarbonas*.

Potassii Chloras (Chlorate of Potassium).—Diuretic, febrifuge, antacid and specific in laryngitis, stomatitis and aphthous ulcers of buccal cavity, etc. H., ʒ i-iv ; C., ʒ ij-vi ; S., gr. xx-xxx ; D., gr. v-x.

Potassii Ferrocyanidum (Ferrocyanide of Potassium).—See *Acidum Hydrocyanicum.*

Potassii Hydras (Caustic Potash).—Externally, as caustic.

Potassii Iodidum (Iodide of Potassium).—Diuretic and absorbent. H., ʒ i-iii ; C., ʒ i-iv ; S., gr. xx-xxxx ; D., gr. i-viii.

Potassii Nitras (Nitre, Saltpetre).—Diuretic—H., ʒ i ; D., gr. x-ʒ ij. Febrifuge—H., ʒ i-ii ; D., gr. v-x. Specific in laminitis acuta—H., ʒ ii-iv. Externally, stimulant and refrigerant.

Potassii Permanganas (Permanganate of Potassium).—Deodorizer and disinfectant for wounds, ulcers, etc.

Potassii Sulphas (Sulphate of Potassium).—Saline purgative.

Psoralea Semina (Psoralea Seeds).—Laxative, stimulant, aphrodisiac.

Pulvis Antimonialis (James' Powder).—Febrifuge and emetic. D., gr. iii-viii.

Pulvis Ipecacuanhæ Compositus (Dover's Powders.)—Sedative and diaphoretic. D., gr. v-xv.

Pyoktanin.—Externally, as antiseptic and stimulant to wounds and ulcers.

Quassia Lignum.—Bitter tonic, stomachic and anthelmintic. Infusion—H. and C., ƒʒ iv-vi ; S., ƒʒ iv-ʒ i ; D., ƒʒ i-ii.

Quercus Cortex (Oak Bark).—Astringent—H. and C., ʒ ii-ʒ ii ; S., ʒ i-ij ; D., gr. x-xxx.

Quiniæ Sulphas (Sulphate of Quinine).—Antipyretic, antiseptic, tonic and antiperiodic. H., gr. xx-ʒ iss ; S., gr. x-xxx ; D., gr. ij-x.

Resina (Resin).—Astringent, stimulant and diuretic. H., ʒ i-v ; S., ʒ i-ij ; D. gr. xx-xxx. Externally, stimulant and astringent.

Rhei Radix (Rhubarb Root).—Tonic—H., ʒ i-ii ; D., gr. x-xxxx. Cathartic—D., ʒ ij-iii.

Sabinæ Cacumina (Savin Tops).—Anthelmintic. H., ƒʒ ii-iii ; D., gr. iii-xv. Externally, stimulant to wounds, etc.

Salicinum (Salicin).—See *Acidi Salycilicum.*

Santoninum (Santonin).—Anthelmintic for round-worms. H., gr. xx-xxxx ; D., gr. ij-xii.

Scilla (Squill).—See *Acetum Scillæ.*

Sinapis (Mustard).—Stimulant, stomachic, carminative, diuretic and aperient. As a stomachic—H., ʒ ii-iv ; C., ʒ iv-ʒ i ; S., ʒ i-ii. As emetic—D., ʒ ii. Externally, rubefacient counter-irritant.

Sodii Bicarbonatis et Carbonatis (Carbonate and Bicarbonate of Sodium).—Antacid, diuretic. H., ʒ ss-i ; C., ʒ i-ii ; S., ʒ i-ij ; D., gr. x-xxxx.

Sodii Boras.—See *Acidum Boricum.*

Sodii Bromidum (Bromide of Soda).—See *Potassii Bromidum.*

Sodii Chloridum (Chloride of Soda, common salt).—Stomachic, tonic, antiseptic, antiferment, anthelmintic, cathartic, emetic and alterative. As emetic—D., ʒ i-iii. As stomachic and alterative—H., ʒ ss-i; C., ʒ ij-iii; S., ʒ ij-iv; D., gr. x-xx. As anthelmintic and cathartic—C., ʒ x-xx; S., ʒ i-iii.

Sodii Hydras (Caustic Soda).—Caustic, like *Potassii Hydras.*

Sodii Iodidum (Iodide of Soda).—See *Potassii Iodidum.*

Sodii Salicylas (Salicylate of Soda).—See *Acidum Salicylicum.*

Sodii Sulphas (Glauber's Salt).—Cathartic, alterative and diuretic. As cathartic—C., ʒ xv-xx; S., ʒ ij-iv.

Sodii Sulphis (Sulphite of Soda).—Antiseptic and deodorant. H. and C., ʒ ss-i; S., ʒ i-ii; D., gr. x-xx.

Sodii Sulphocarbolas (Sulphocarbolate of Soda).—Antiseptic and alterative. H., ʒ i-ij; C., ʒ ii-iii; D., gr. v-xv.

Spiritus Ætheris (Spirit of Ether).—Stimulant and antispasmodic. D., m xx-ʒ i.

Spiritus Ætheris Nitrosi (Sweet Spirits of Nitre).—Stimulant, antispasmodic and diuretic. H., ƒʒ i-ii; C., ƒʒ ii-iv; S., ʒ ii-iv; D., m xx-xxxx.

Spiritus Ammoniæ Aromaticus (Aromatic Spirit of Ammonia).—Stimulant, antispasmodic, antacid. H., ƒʒ i-ij; C., ƒʒ ij-iv; S., ƒʒ ij-vi; D., m x-xxx.

Spiritus Camphoræ (Spirit of Camphor).—Stimulant. D., m x-xx.

Spiritus Chloroformi (Spirit of Chloroform).—Stimulant, antispasmodic and anodyne. H., ƒʒ i-iii; C., ƒʒ ij-iv; S., ƒʒ ij-iv; D., ƒʒ ss-i.

Spiritus Rectificatus (Rectified Spirit).—Diffusible stimulant, promotor of gastric digestion, diaphoretic, antispasmodic. H., ƒʒ i-iii; C., ƒʒ ij-v; S., ƒʒ ss-i; D., ʒ ss-ij. Externally, antiseptic, disinfectant, refrigerant, rubefacient and stimulant.

Staphisagriæ Semina (Stavesacre Seeds).—Used as infusion or ointment in parasitic skin diseases.

Strychnina (Strychnine).—See *Nux Vomica.*

Sulphur Sublimatum (Sublimed Sulphur).—Laxative and alterative. As laxative—H., ʒ iii-iv; C., ʒ iv-vi; S., ʒ ij-iv; D., ʒ iv-vi. As alterative—H., ʒ i-ij; C., ʒ i-iii; S., ʒ iv-viii; D., ʒ ss-ij.

Sulphuris Iodidum (Iodide of Sulphur).—Externally, in chronic skin affections.

Tabaci Folia (Tobacco Leaves).—Narcotic, sedative and anthelmintic. H. and C., ʒ i-ij; S., gr. x-xv; D., gr. iii-vi.

Theriaca (Treacle).—Laxative. H. and C., ʒ xx; S., ʒ iv; D., ʒ i.

Tinctura Aconiti (Tincture of Aconite).—Heart sedative and anodyne. H., m xxx-L ; C., m xxx-℥ i ; S., m viii-x ; D., m iii-vi. Fleming's tincture is about three times as strong as the U. S. P., and the dose is proportionately less.

Tinctura Arnicæ (Tincture of Arnica).—See *Arnica Rhizoma*.

Tinctura Belladonnæ (Tincture of Belladonna).—See *Belladonnæ Radix*. H., *f*℥ i ; D., m x-xx.

Tinctura Ferri Perchloridi (Tincture of the Chloride of Iron).—Astringent and tonic. H., *f*℥ ss-i ; C., *f*℥ i-ij ; S., *f*℥ ij-iv ; D., m v-xv.

Tinctura Opii (Laudanum).—See *Opium*. H. and C., *f*℥ i-iii ; S., *f*℥ ij-vi ; D., xv-xxx.

Tinctura Gentianæ Composita (Compound Tincture of Gentian).—Tonic. H. and C., *f*℥ ij-iv ; S., *f*℥ i ; D., *f*℥ i.

Tinctura Zingiberis Fortis (Strong Tincture of Ginger).—Tonic. H., *f*℥ i-ij ; C., *f*℥ ij-iv ; S., *f*℥ ii-iv ; D., m xx-*f*℥ i.

Unguentum Hydrargyri (Mercurial Ointment).—Antiparasitic.

Unguentum Iodi Compositum (Compound Iodine Ointment).—Absorbent.

Valerianæ Rhizoma (Valerian Rhizome).—Nerve stimulant. H. and C., ℥ i-ij ; D., ℥ i-ij.

Veratri Veridis (Green Helebore).—Cardiac depressant. H., ℥ ss ; C., ℥ i ; S., gr. xv-xx ; D., gr. ij-iii.

Vinum Ipecacuanhæ (Wine of Ipecac).—Expectorant—D., *f*℥ i-ii. Emetic—D., *f*℥ ij-vi.

Zinci Acetas (Acetate of Zinc).—Externally, stimulant to sores.

Zinci Carbonas (Carbonate of Zinc ; Calomine).—Astringent for sores.

Zinci Chloridum (Chloride of Zinc ; Butter of Zinc).—Escharotic; if diluted it is antiseptic, disinfectant, astringent and stimulant.

Zinci Oxidum (Oxide of Zinc).—Externally, astringent to wounds.

Zinci Sulphas (Sulphate of Zinc).—Sedative, astringent, tonic, antiseptic, emetic. Astringent and tonic—H. and C., ℥ i-ij ; S., gr. x-xv ; D., gr. ij-iv. Emetic—D., gr. vi-xii. Externally, mild caustic, astringent, stimulant and antiseptic.

Zinci Sulphocarbolas (Sulphocarbolate of Zinc).—Astringent for leuchorrhœal and gonorrhœal discharges.

Zinci Valerianas (Valerianate of Zinc).—Antispasmodic. D., gr. ij-iv.

Zingiber (Ginger).—Aromatic, carminative, tonic and stomachic H., ℥ ss-i ; C., ℥ i-ij ; S., ℥ i-ij ; D., gr. x-xx.

POISONS.

BRIEF SYMPTOMS AND ANTIDOTES.

In all cases, where practicable, the stomach-pump should be early employed, and if the poison has been swallowed by an animal capable of vomition, the majority of cases are relieved by quick emesis.

ACIDS, MINERAL.—*Symptoms*—They produce the effects of an irritant corrosive poison, destroying by their escharotic action all tissues with which they come in contact. *Antidotes*—Alkalies, magnesia, soda, lime, soap, to neutralize acid; eggs, milk, oils, etc., to protect tissues; nutrients and stimulants to overcome depression immediately following their ingestion.

ACONITE.—*Symptoms*—Trembling, slight convulsions, loss of power of support, frothing from mouth, free perspiration, much nausea, efforts resembling vomiting, breathing slower, pulse weak and usually less frequent; death from respiratory and cardiac arrest. *Antidotes*—Emetics where practicable, warmth to extremities, stimulants to respiration and circulation, internally and externally, and the assumption of the recumbent position.

ANTIMONIUM TARTRAS.—*Symptoms*—Vomiting and purging; great prostration of vital powers; epigastric pain, cyanosis, delirium, motor and sensory paralysis, suppression of urine, and collapse—much like Asiatic cholera. Horses and cattle are only slightly susceptible to its action. *Antidotes*—Tannic acid in some form to operate chemically, opium as an antagonist, and demulcent drinks to protect mucous membrane.

ARSENIC.—*Symptoms*—Acute poisoning: The phenomena are either gastro-intestinal or cerebral. In the former, the most usual form, there is pain in the stomach, vomiting, thirst, bloody stools, strangury, suppressed or bloody urine, rapid and feeble heart, anxiety, cold breath, albuminuria and collapse. In the nervous form, there is profound coma, not unlike opium narcosis. Chronic poisoning: Œdema, itching of the eyelids, increased saliva, nausea, vomiting of mucous, diarrhœa and dysentery, pain in stomach, irritable and feeble heart, dyspnœa, disordered sensibility, herpes zoster, urticaria, eczema and other skin eruptions, jaundice and albuminuria. *Antidotes*—Evacuation of the stomach. Administer hydrated oxide of iron, freshly precipitated, in quantity eight parts for every particle of poison swallowed. Then oil, milk or mucilaginous drinks to protect mucous membrane, and diluents; iodide of potassium to promote elimination.

ARGENTI NITRAT.—*Symptoms*—Violent gastro-enteritis and ulcer of stomach from thrombosis of veins. *Antidotes*—Sodium chloride, freely precipitating the insoluble chloride of silver, also acting as an emetic.

BELLADONNA.—*Symptoms*—Motor paralysis, marked acceleration of pulse, dilated pupils, delirium, stupor, and death from asphyxia or asthenia. *Antidotes*—Stimulants and coffee; subcutaneous injection of caffeine; keep animal moving; artificial respiration; physostigma given cautiously.

CANTHARIDES.—*Symptoms*—The phenomena of gastro-enteritis; the respiratory and gastro-urinary mucous membranes specially irritated; the kidneys are inflamed, manifested by bloody urine, strangury, stiffness across loins. Cerebral effects are muscular trembling, partial or general convulsions, coma and insensibility. *Antidotes*—Emetics; free use of mucilaginous drinks, with opiates. Oils and fats are inadmissible on account of favoring solution of the unabsorbed poison. When constitutional irritation results from absorption of cantharidin from blistered surface, the parts should be dressed with soothing remedies.

CARBOLIC ACID.—*Symptoms*—When taken by mouth, from its power to coagulate albumen of the tissues, the tongue, fauces and throat appear as though brushed over by nitrate of silver, becoming hard and dry like leather. Sudden vertigo, contracted pupils, embarrassed respiration and feeble circulation, convulsions, unconsciousness supervening, breathing stertorous, surface of body grows cold, heart more and more feeble, and death from respiratory arrest. Dogs very susceptible, even to weak solutions upon the skin, often causing excitement, blowing, unsteady gait, and occasionally fatal collapse. *Antidotes*—Emetics; pharyngeal and gastric irritation allayed by opiumized steam; demulcent drinks, and saccharated lime. Neutralize the poison by conversion into phenol-sulphuric acid, by sulphates of sodium and magnesium.

CHLOROFORM.—*Symptoms*—Death may occur early in the inhalation from sudden paralysis of cerebral hæmispheres; in the stage of rigidity from tetanic fixation of respiratory muscles; in the stage of complete relaxation, by paralysis of respiration, or paralysis of tongue, causing obstructed respiration; in the same state by paralysis of the cardiac ganglia; also from depression of functions, or shock, in the anæsthetic stage or afterward. *Antidotes*—Drawing tongue out of mouth; artificial respiration; warmth to body and limbs; intravenous injections of ammonia; alcoholic stimulants hypodermically and by the mouth; faradization of muscles of chest; turning patient face downwards.

CHLORAL HYDRATE.—*Symptoms*—Profound narcotism; abolishment of reflexes and sensibility; complete muscular relaxation, with great fall of temperature. Death may result by arrest of

cardiac or respiratory motor ganglia, or by heart failure from degenerative disease. *Antidotes*—Atropine antagonizes its cardiac, respiratory and spinal depression, but should be given in small, repeated doses; morphine to prevent its paralyzant heart effects.

Sulphuric Ether.—*Symptoms*—Complete loss of sensibility, paralysis of respiration taking place slowly, the heart pulsating long after breathing has ceased. *Antidotes*—Fresh air, artificial respiration, intravenous injections of ammonia.

Colchicum.—*Symptoms*—Gastro-intestinal irritation, griping, choleraic discharges, lowered arterial tension and heart depression, followed by great prostration, collapse, and death from exhaustion, with consciousness retained until carbonic acid narcosis sets in. *Antidotes*—Emetics and cathartics, followed by demulcent drinks. If coma, brandy, ammonia, etc.; subcutaneous injections of morphine; keep up external heat.

Corrosive Sublimate.—*Symptoms*—Swallowed in strong solution it is an irritant poison, producing gastro-enteritis and collapse. Smaller or more diluted doses produce mercurialism. *Antidotes*—Emetics: free use of albumen to form insoluble mercuric albuminate (one egg to every four grains of the poison). In the absence of eggs, wheat or barley flour, milk or other albumenoids, followed by astringent drinks.

Croton Oil.—*Symptoms*—Acute gastro-enteritis. *Antidotes*—Emetics; wash out stomach, followed by mucilaginous fluids, containing opium.

Cupri Sulph.—*Symptoms*—The emetic effects usually, though not invariably, destroy its toxic action in all animals except the horse. Large retained doses produce fatal gastro-enteritis. Repeated full doses induce intestinal irritation, with paralysis, not unlike that of lead. *Antidotes*—White of egg, forming insoluble innocuous albuminates; iron filings attract and fix the copper; ferro-cyanide of potassium produces an insoluble and harmless salt.

Digitalis.—*Symptoms*—Excessive doses, with gastric irritation and derangement, disorder, exhaust, and arrest heart action and dilate arterioles, producing fainting and fatal prostration. *Antidotes*—Keep the patient perfectly quiet, administer alcoholic stimulants, along with counter-irritation to the heart.

Hydrocyanic Acid.—*Symptoms*—When given in fatal doses the symptoms set in with great rapidity. Occasionally the victim may be able to perform a few voluntary actions before alarming symptoms are developed; there is first a brief stage of difficult breathing and slow action of the heart, with a tendency for the organ to stop in the stage of dilatation. With widely-dilated pupils, the patient is then seized with violent irregular convulsive movements, respiratory rhythm is disturbed, and the countenance becomes of a bluish cast. The patient now sinks to the ground

with complete loss of muscular action, slow gasping respirations, loss of pulse and paralysis of motion. Death is frequently preceded by muscular spasms. *Antidotes*—Inhalation of fumes of strong ammonia, drinks of warm and cold water alternately, friction of the limbs, and artificial respiration. The subcutaneous injection of atropine is given here as a cardiac stimulant.

Iodine.—*Symptoms*—Large doses produce the symptoms of an irritant poison ; persisted with for a long period, it induces a debilitated, depraved state, termed iodism, characterized by loss of appetite, an irritable, catarrhal condition of the mucous membrane of the nostrils, eyes, throat and digestive organs, a vesicular skin eruption, abstinence from water, languor, inaptitude for exertion, and elevation of temperature. *Antidotes*—Full doses of starch, to convert unabsorbed iodine into innocuous amylum iodide. Withhold all medicines containing iodine, and administer mineral tonics, bitters and nutritive diet.

Lead.—*Symptoms*—Chronic poisoning mostly seen ; impaired digestion, appetite capricious, sometimes lost, sometimes morbidly increased ; spasms and subsequently torpidity of the bowels—similating stomach staggers in horses and impaction of omasum in cattle. Later, along the margins of the gums appears a gray line of lead deposit, blackened by sulphur ; often there is colic and constipation ; extensor muscles are cramped and paralyzed earlier and more seriously than the flexors, and there is atrophy of the affected muscles. *Antidotes*—In acute poisoning, an emetic or the stomach-pump is promptly used, followed by the appropriate antidotes. In chronic poisoning the lead, whether deposited in the tissues or lodged in the digestive canal, should be rendered insoluble by administration of sulphur, potassium iodide or magnesium sulphate. The two latter antidotes, each repeated thrice daily, are most to be relied on, and are followed up by occasional doses of oil, which removes the lead salts as they are excreted, into the bowels.

Morphine.—See *Opium*.

Nux Vomica.—*Symptoms*—Trembling and twitching of voluntary and involuntary muscles, and violent clonic spasms, usually lasting one or two minutes, gradually becoming more frequent and severe, and from involving the glottis, diaphragm and other muscles of respiration cause death usually by asphyxia. The symptoms and mode of death resemble tetanus, but are more suddenly developed, more intermittent and more rapidly fatal. The spasms are more clonic and less tonic than in tetanus, and do not so early affect the muscles of the jaw. *Antidotes*—Empty stomach speedily ; if convulsions frequent, anæsthetize the patient, stomach washed out, and chloral hydrate given hypodermically ; curare, conium, tobacco, opium and calabar bean.

Opium.—*Symptoms* -Cold, clammy sweat, very slow heart, abolished reflexes, coma, the pupil minutely contracted, but dilated as the end approaches, and death by suspension of respiration, due to the direct action of the poison on the respiratory centre in the medulla. *Antidotes*—Evacuate stomach; maintain respiration and keep up circulation; atropine antagonizes the cerebral action, also its action on pupil, respiration, heart and arterial tension; but if given too freely will substitute belladonna narcosis for opium narcosis. Coffee and caffeine, faradization of chest muscles, cold effusions and artificial respiration are of great value; evacuation of bladder is also important.

Oxalic Acid.—*Symptoms*—When taken in the stomach in concentrated solution it produces the symptoms of a corrosive poison, and also exerts a specific effect, killing the patient by cardiac syncope within a few minutes, having exhibited great weakness, small pulse and heart failure. *Antidotes*—A prompt emetic, followed by chalk, whiting, or any substance containing carbonate of calcium. The alkaline carbonates are valueless, for the alkaline oxalates are almost as poisonous as oxalic acid itself.

Phosphorus.—*Symptoms*—It is a powerful gastro-intestinal irritant, causing vomiting and purging, with great depression; reaching the blood as phosphorus, it destroys the red blood corpuscles, causing acute hæmorrhage, from fatty degeneration of the arterial walls, rapid steatosis of the stomach, liver and heart, with deep jaundice; then delirium, convulsions, coma and death, generally from gradual failure of respiration and circulation. *Antidotes*—Sulphate of copper is the best emetic; hydrated magnesia as a quick purgative; lime water or charcoal to prevent its action on tissues. Commercial oil of turpentine is the antidote; but no fats or oils to be given, as they promote absorption of the poison.

Potash and Soda Salts.—*Symptoms*—These produce symptoms resembling those of the mineral acids, except that purging is a usual accompaniment. *Antidotes*—Dilute acetic acid, citric acid, lemon juice, fixed oils, demulcents, vinegar.

Stramonium.—Same as *Belladonna*.

Strychnine.—Same as *Nux Vomica*.

Zinc Salts.—*Symptoms*—The soluble salts (chloride, sulphate and acetate) are corrosive poisons, causing violent gastro-enteritis, and in some cases profound nervous symptoms. *Antidotes*—Carbonate of soda, emetics, warm demulcent drinks.

TABLE OF SOLUBILITY OF DRUGS.

	Cold Water.	Boiling Water.	Alcohol.	Special Solvents.
Acidum Arseniosum	100	20	Insoluble	All Acids.
" Benzoic	500	25	Readily	Phosphate and Sulp. Sodium.
" Boracic	Sparingly	Sparingly	6	.....
" Carbolic	Readily	Readily	Readily	.....
" Gallic	20	3	"	.....
" Oxalic	10	1	4	.....
" Salicylic	.....	Soluble	Readily	....
" Tannic	Readily	Readily	Soluble	....
" Tartaric	2	1	80%	.....
Aconitia	150	50	Readily	.....
Æther	10	10	Miscible	.....
Albumen	Soluble	Soluble	Insoluble	.....
Aloin	60	5	Readily	.....
Alumen Acetate	Soluble	Soluble	Insoluble	.....
" Sulphat	2	.....	"	.....
Ammonii Acetas	Soluble	Soluble	Soluble	.....
" Bromid	Readily	Readily	Sparingly	.....
" Carbonat	4	4	"	.....
" Chlorid	3	1	Soluble	.....
" Iodid	Readily	Readily	Readily	.....
" Sulpho-Carbol.	Soluble	Soluble	Insoluble	.....
" Valerian	Readily	Readily	Readily	.....
Amyl, Nitrite	Sparingly	Sparingly	"	.....
Antimonii et Pot. Tartras.	15	2	Insoluble	.....
Apomorphia	Soluble	Soluble	Soluble	.....
Argenti Nitras	1½	.....	10	.....
Arsenici Iodid	6	3	Boiling	.....

TABLE OF SOLUBILITY OF DRUGS—CONTINUED.

	Cold Water.	Boiling Water.	Alcohol.	Special Solvents.
Atropia Sulph	Readily	Readily	Readily	.....
Bismuthi Subcarb	Insoluble	Insoluble	Insoluble	Muriatic and Nitric Acid.
" Subnitras	"	"	"	Dilute Nitric Acid.
Brominium	34	.....	Soluble	.....
Brucia	320	150	Sparingly	Carbonic Acid Water.
Caffein	Soluble	Readily	20	.....
Calcii Bromid	Readily	"	Readily	.....
" Carb. Præcip	Sparingly	.....	Insoluble	Cold Aq. Sol. Chlor. Am.
" Chlorid	2	.....	Readily	.....
" Phosphas	Insoluble	Insoluble	Insoluble	Sol. Chlor. Am., Dilute Phosphor. Acid.
Calx Chlorinat	Partially	.....	Sparingly	.....
Camphoræ	1300	.....	Readily	.....
Cantharidin	Insoluble	.....	Sparingly	Benzoic and Hot Acetic Acids, Boiling Oil of Turpentine.
Cerii Nitras	Readily	Readily	Readily	.....
Chloral Hydrat	"	"	"	.....
Chloroform	Insoluble	.....	10 in 16	.....
Cimicifugin	"	.....	Readily	.....
Cinchonia	"	.....	"	Excess of Sulph. Acid.
Cinchonidia	"	.....	Soluble	" " "
Codia	100	50	Readily	.....
Colchicin	Sparingly	.....	"	.....
Conia Sulph	Readily	Readily	"	.....
Creasotum	80	24	Miscible	.....
Creta Præp	Insoluble	Insoluble	Insoluble	Muriatic and other Acids.
Cupri Subacetat	14	5	Sparingly	.....

Cupri Sulphas	3	.....	Insoluble	.....
Daturia	Insoluble	.....	Soluble	.....
Digitalinum	Sparingly	.....	Readily	.....
Elaterium	Insoluble	.....	"	.....
Ergotina	"	.....	"	.....
Eserine Salicylas	130	30	12	.....
Eucalyptol	Insoluble	.....	Partly	.....
Ferri Arsenias	"	.....	Sparingly	Muriatic and Nitric Acids.
" Carbonas	Sparingly	.....	Insoluble	Muriatic Acid, Aq. Sol. Chl. Am.
" Chlorid	3	.....	Soluble	.....
" Sulphas	3	.....	Insoluble	.....
" Iodid	2	.....	Soluble	.....
" Oxidum	Insoluble	Insoluble	Insoluble	Hot Nitric and Muriatic Acids.
" Phospas	"	"	"	Hot Muriatic Acid, Aq. Am.
" Redactum	Sparingly	.....	"	.....
Glycerina	Soluble	Soluble	Soluble	.....
Hamamelin	Partly	Partly	In Dilute	.....
Hydrargyri Ammon	600	.....	Insoluble	Nitric and Muriatic Acids, Am. Solutions.
" Chlorid. Mite	Insoluble	Insoluble	"	.....
" " Corros	15	.....	7	.....
" cum Creta	Insoluble	Insoluble	Insoluble	Muriatic Acid.
" Cyanid	11	2½	5 Boiling	.....
" Iodid Rub	Insoluble	.....	36	Aq. Sol. Iodid Potas.
" Oxid	"	Insoluble	Insoluble	.....
Hydrastin	"	"	In Boiling	.....
Ingluvin	"	"	Insoluble	Muriatic Acid.
Iodinum	Sparingly	.....	Readily	.....
Iodoformum	Insoluble	.....	"	7 parts Ether, fixed Volatile Oils.
Jalapin	Soluble	Soluble	"	.....
Leptandrin	Insoluble	Insoluble	Soluble	.....
Lobelia	Soluble	.....	Readily	.....

TABLE OF SOLUBILITY OF DRUGS—CONTINUED.

	Cold Water.	Boiling Water.	Alcohol.	Special Solvents.
Magnesii Carbonas	Sparingly	Sparingly	Sparingly	.....
" Sulphas	Readily	Readily	Insoluble	.....
Morphia Acetas	17	1	{ 44 Cold, 1 Boiling }	.....
" Sulphas	Readily	Readily	Readily	.....
Pepsin	Partly	Partly	Insoluble	Water Acidul'd with Mur. Acid.
Phosphorus	Insoluble	Insoluble	{ 320 Cold 240 Hot }	Sulphide of Carbon, 1 in 20 Absolute Ether.
Phytolaccin	"	"	Readily	.....
Pilocarpin Hydrochloras	1½	1½	7 parts	2-5 Boiling Alcohol.
Plumbi Acetat	2 in 5	.....	Sparingly	.....
" Iodid	Decomposed	Decomposed	Decomposed	Hydriodic Acid.
" Nitras	.....	"	Soluble	Dil. Nitric Acid.
" Oxid	Insoluble	Insoluble	Insoluble	Nitric and Muriatic Acids.
Podophyllin	"	"	Partly	Aq. Sol. Caustic Alkalies.
Potassa	2 in 1	2 in 1	Soluble	.....
Potassii Bi-Carbonas	8	3	Insoluble	.....
" Bitartras	240	16	"	.....
" Bromid	3	1	Soluble	.....
" Carbonas	4 in 3	.....	Insoluble	.....
" Chloras	12	2	Dilute	.....
" Cyanid	Readily	Readily	Insoluble	.....
" et Sodii Tartras	5	.....	Partly	.....
" Iodid	4 in 3	.....	6	.....
" Nitras	2 in 8	5	Insoluble	.....
" Permanganas	16	.....	Decomposed	.....
" Sulphas	10	4	Sparingly	.....

Quinia	350	200	Readily	.....
" Sulphas	Sparingly	.....	Boiling	.....
Quinidia "	300	25	Soluble	.....
Salicin	Readily	Readily	Readily	.....
Sanguinarin	Insoluble	.....	"	.....
Santonin	.....	Readily	Readily	.....
Sodii Bicarb	10	.....	Sparingly	.....
" Boras	20	2	Insoluble	.....
" Bromid	2	.....	Dilute	.....
" Carbonas	2	.....	Insoluble	.....
" Chlorid	2 in 5	Readily	Dilute	.....
" Hyposulphas	Readily	"	Insoluble	.....
" Phosphas	5	.....	Sparingly	.....
" Salicylas	Readily	Readily	"	.....
" Sulphas	3	"	Insoluble	.....
" Sulphis	4	.....	"	.....
" Sulpho-Carbol	Readily	Readily	Readily	.....
Strychnia Sulphas	42	1	82 Cold 1 Boiling	.....
Sulphur	Insoluble	Insoluble	Sparingly	Chloroform, Turpentine.
" Iodid	"	"	Decomposed	Glycerine.
Veratria	"	"	Readily	.....
Viburnin	Partly	Partly	"	.....
Woorara	Soluble	Soluble	Soluble	.....
Xanthoxylin	Insoluble	.....	Readily	.....
Zinci Carbonas	"	Insoluble	Insoluble	Acids, Ammon.
" Chlorid	5 in 2	.....	1 in 2	.....
" Oxid	Insoluble	Insoluble	Insoluble	Acids.
" Sulphas	10 in 7	.....	"	.....
" Valerian	50	40	60	.....

COMPOSITION OF MILK

IN VARIOUS ANIMALS.

Constituents (in 100 parts).	Cow.	Goat.	Sheep	Ass.	Mare.	Sow.	Woman
Water	85.7	86.4	84.0	91.0	82.8	82.4	88.8
Solids	14.3	13.6	16.0	9.0	17.2	17.6	11.2
Casein	4.8	3.3	5.3	2.0	1.6	6.1	3.5
Albumen	0.6	1.2					
Fats	4.3	4.4	5.4	1.3	6.9	6.4	3.5
Sugar	4.0	4.0	4.1	5.7	8.7	4.0	4.0
Salts	0.6	0.7	0.7			1.1	0.2

RELATIVE VALUE OF DIFFERENT KINDS OF MILK.

	Water.	Casein & Albumen	Butter.	Sugar & Salts.
Mares' Milk	91.15	1.03	1.27	6.12
Asses' "	89.01	3.57	1.85	5.57
Women's "	87.24	2.88	3.68	5.78
Goats' "	86.85	3.79	4.34	3.78
Cows' "	84.28	4.35	6.47	4.34
Sheep's "	83.30	5.73	6.05	3.96

COMPOSITION OF THE BILE OF DIFFERENT ANIMALS.

[Smith's Physiology of the Domestic Animals.]

In 100 Parts Bile.	Man.	Ox.	Pig.	Dog.	
				Fresh	From Gall Bladder.
Water	86.3	90.4	88.8	95.3	85.2
Solids	13.7	9.6	11.2	4.7	14.8
Bile Salts	7.4	...	7.3	3.4	12.6
Lecithin, Colesterin	....	8.0	...	...	....
Fats, Soaps	3.0	...	2.2	0.5	1.3
Mucin and Coloring Matter	2.2	0.3	0.6	0.2	0.3
Inorganic Salts	1.1	1.3	1.1	0.6	0.6

COMPOSITION OF THE BLOOD OF ANIMALS.

100 Parts Venous Blood (Hoppe-Seyler and Fudakowski).

	Horse.	Dog.
Corpuscles	32.62	38 34
Plasma	67.38	61.66

One Hundred Parts Plasma.

	Horse.	Dog.
Solids	9.16	7.87
Water	90.84	92.13
Fibrin	1.01	0.18
Albumen	7.76	6.10
Fats	0.12	0.21
Extractives	0.40	0.39
Soluble Salts	0.64	0.82
Insoluble Salts	0.17	0.17

One Hundred Parts Corpuscles.

	Horse.	Dog.
Water	56.50	....
Solids	43.50	....

100 Parts Defibrinated Venous Blood of Ox (Bunge).

	Corpuscles. 31.87	Serum. 68.13
Water	19.12	62.22
Solids	12.75	5.91
Albumen	3.42	4.99
Hæmoglobin	8.94	....
Other organic matters	0.24	0.38
Inorganic matters	0.15	0.54
Potassium	0.0238	0.0173
Sodium	0.0667	0.2964
Lime	....	0.0070
Magnesium	0.0005	0.0031
Iron Oxide	....	0.0007
Chlorine	0.0521	0.2532
Phosphoric Acid	0.0224	0.0181
	Ox.	Calf.
Water	799.59	826.71
Fibrin	3.62	5.76
Fat	2.04	1.61
Corpuscles	121.86	102.50
Albumen	66.90	56.41
Alkaline Phosphates	0.468	0.957
" Sulphates	1.181	0.269
" Carbonates	1.071	1.263
Sodium Chloride	4.321	4.864
Iron Oxide	0.731	0.631
Calcium	0.098	0.130
Phosphoric Acid	0.123	0.109
Sulphuric Acid	0.018	0.918

HOURLY SECRETION OF BILE BY VARIOUS ANIMALS (COLIN).

Ox	100 to 120 grammes.
Pig	75 " 160 "
Sheep	10 " 160 "
Dog	8 " 15 "
Horse	250 " 300 "

QUANTITATIVE COMPOSITION OF GASTRIC JUICE OF DIFFERENT ANIMALS.

[Smith's Physiology of the Domestic Animals.]

	Man.	Dog.	Sheep.
Water	994.40	973.06	986.14
Organic Matter (especially ferments)	3.19	17.13	4.05
Sodium Chloride	1.46	2.50	4.37
Calcium Chloride	0.06	0.26	0.11
Hydrochloric Acid	3.19	17.13	4.05
Potassium Chloride	0.55	1.12	1.52
Ammonium Chloride	....	0.47	0.47
Calcium Phosphate		1.73	1.18
Magnesium "	0.125	0.23	0.57
Ferric "		0.08	0.33

NOTE.—Various attempts have been made to collect the gastric juice of solipeds, but as yet it has been impossible to obtain it in a free state from a live subject, gastric fistulæ being impossible upon anatomical grounds.

COMPOSITION OF THE URINE OF DIFFERENT ANIMALS (BOUSSINGAULT)

	Horse.*	Cow.†	Pig.‡
Urea	31.0	18.5	4.9
Potass. Hippurate	4.7	16.5	0.0
Alkaline Lactates	20.1	17.2	...
Potass. Bicarb.	15.5	16.1	10.7
Mag. Carb.	4.2	4.7	0.9
Calcium Carb.	10.8	0.6	traces
Potass. Sulph.	1.2	3.6	2.0
Sodium Chloride	0.7	1.5	1.3
Silica	1.0	traces	0.1
Phosphates	0.0	0.0	1.0
Water and undetermined substances	910.0	921.3	979.1
	1000.0	1000.0	1000.0

* Diet of oats and clover hay.
† Diet of hay and potatoes.
‡ Diet of cooked potatoes.

COMPOSITION OF MIXED SALIVA.

The chemical composition of the mixed saliva varies somewhat in different animals. The solids are epithelium and mucin, ptyalin, serum-albumen, globulin and salts. The following table represents some of the different analyses which have been made:

Horse.

Water	992.00
Mucus and Albumen	2.00
Alkaline Carbonates	1.08
Alkaline Chlorides	4.92
Alkaline Phosphates and Phosphate of Lime	traces
	1000.00

Cow.

Water	990.74
Mucus and Albumen	0.44
Alkaline Carbonates	3.38
Alkaline Chlorides	2.85
Alkaline Phosphates	2.49
Phosphate of Lime	0.10
	1000.00

Sheep.

Water	989.00
Mucus and Albumen	1.00
Alkaline Carbonates	3.00
Alkaline Phosphates	1.00
Alkaline Chlorides	6.00
Phosphate of Lime	traces
	1000.00

Man.

Water	995.16
Solids	4.84
Mucus and Epithelium	1.62
Soluble Organic Matter	1.34
Sulpho-Cyanide of Potassium	0.06
Inorganic Salts	1.82

Dog.

Water	989.06
Solids	10.05
Soluble Organic Matter	3.58
Inorganic Salts	6.79

DURATION OF ŒSTRUM.

[Smith's Physiology of Domestic Animals.]

Mare	2 to 3 days.
Cow	15 to 30 hours.
Sow	1 to 3 days.
Sheep	2 to 3 "
Goat	2 to 3 "
Bitch	9 to 14 "

RESPIRATORY AND PULSE RATES.

	Pulsations per minute.	Respirations per minute.
Horse	36 to 40	10 to 12
Cow	45 to 50	15 to 18
Sheep	70 to 80	13 to 16
Pig	70 to 80	20 to 30
Dog	90 to 100	15 to 20

These figures are inconstant, being governed largely by the individual temperaments and breed.

DURATION OF GESTATION IN VARIOUS ANIMALS.

[The figures given in this table are those usually observed; the fœtus may be carried for a longer or shorter period, and still be a healthy offspring.]

Mare	11 months and 15 days.
Ass	11 " " 15 "
Cow	9 " " 15 "
Sheep	5 "
Goat	5 "
Sow	4 "
Bitch	2 " " 3 "
Cat	8 weeks.
Rabbit	28 days.
Elephant	2 years.

The male is usually carried longer than the female; primipara longer than older females; well-bred longer than those of coarser breeds.

COMPOSITION OF FÆCES.

The following table, from "Smith's Physiology of the Domestic Animals," gives the percentage of salts found in the fæces of different animals. The percentage will vary according to the nature of the food. It may, as a rule, be said that in the fæces of the dog about 20 per cent. of inorganic matter is present when on a pure meat diet, and 24 per cent. on a mixed diet; in that of the herbivora, 58 per cent. is inorganic, though the fæces of the sucking calf will contain only 2.6 per cent. of the inorganic matter contained in the food. According to Valentin, 100 grammes of fæces of the hog contains 37.2 grammes; ox, 15.2 grammes; horse, 13.3 grammes; sheep, 13.5 grammes of ash.

	Horse.	Ox.	Hog.	Sheep.
Sodium Chloride	0.03	0.23	0.89	0.14
Potassium	11.30	2.91	3.60	8.32
Sodium	1.98	0.98	3.44	3.28
Lime	4.63	5.71	2.03	18.15
Magnesium	3.84	11.47	2.24	5.45
Oxide of Iron	1.44	5.22	5.57	2.10
Phosphoric Acid	10.22	8.47	5.39	9.10
Sulphuric Acid	1.83	1.77	0.90	2.69
Carbonic Acid	....	....	0.60	traces
Silicon	62.40	62.54	13.19	50.11
Sand	....	....	61.37	....
Oxide of Magnesium	2.13	....	....	....

KREUTZER'S TABLE OF DENTITION IN THE DOMESTIC ANIMALS.

	Horse.		Ruminants.		Pig.		Dog.	
	Eruption.	Change.	Eruption.	Change.	Eruption.	Change.	Eruption.	Change.
I.—INCISORS.								
Central	Before or a few days after birth.	2 yrs.	Before or a few days after birth.	1½ yrs.	3 to 4 months.	2½ to 3 yrs.	4 to 6 weeks.	3 to 4 mos.
Middle	4 to 6 weeks.	3½ yrs.	do	2½ yrs.	do	do	do	do
Outer Middle	.....	....	14 days after birth.	3½ yrs.	.....	.....	.....	.....
Corner	6 to 9 months.	4½ yrs.	2 to 3 weeks.	4½ yrs.	Before or a few days after birth.	6 months.	4 to 6 weeks.	5 mos.
II.—TUSKS.	4 to 5 years.	....	.....	....	do	1 year.	do	5 to 6 mos.
III.—MOLARS.								
1	Before or a few days after birth.	2½ yrs.	Before or a few days after birth.	1½ yrs.	do	.....	3 to 4 months.	.....
2	do	do	do	2½ yrs.	do	2 years.	4 to 5 weeks.	5 to 6 mos.
3	do	3 yrs.	do	3½ yrs.	do	do	do	do
4	10 to 12 months.	....	6 to 9 months.	....	5 to 6 months.	do	do	do
5	1½ to 2 years.	....	2½ years.	....	1 year.	.....	4 to 5 months.	.....
6	4 to 5 years.	....	4 to 5 years.	....	1½ to 2 years.	.....	5 to 6 months.	.....
7	.....	....	.....	. ..	3 years.	.....	5½ to 6½ mos.	.....

NUMBER OF TEETH OF DOMESTIC ANIMALS.

Horse 40	Ruminants 32	Dog 42
Mare 36	Pig 44	Cat 30

NORMAL INTERNAL TEMPERATURE.

	Degrees Fahrenheit.		Degrees Fahrenheit.
Horse	99.5	Dog	100.3
Ox	101.2	Cat	99.9
Sheep and Goat	102.1	Camel	99.2
Pig	101.3	Elephant	97.7

Many circumstanees influence normal temperature: young animals register higher than old, nervous higher than those of phlegmatic disposition, females higher than males, higher during exertion than repose, higher in the evening than the morning.

WEIGHTS AND MEASURES.

IMPERIAL AND METRIC.

APOTHECARIES' WEIGHT.

1 Grain, gr. j.
1 Scruple, ℈j ..... = 20 grains.
1 Drachm, ʒj ..... = 3 scruples = 60 grains.
1 Ounce, ℥j ..... = 8 drachms = 480 "
1 Pound, lb. j ..... = 12 ounces = 5760 "

MEASURE OF CAPACITY.

1 Minim, m j.
1 Fluid Drachm, ƒʒj ..... = 60 minims.
1 Fluid Ounce, ƒ℥j ..... = 8 fluid drachms.
1 Pint, Oj ..... = 16 fluid ounces.
1 Quart, Qtj ..... = 2 pints.
1 Gallon, Cj ..... = 4 quarts.

1 minim of water weighs nine-tenths of a grain; a fluid ounce at 60° weighs exactly an ounce avoirdupois; hence a pint is equal to a pound and a quarter, and a gallon to ten pounds avoirdupois.

DOMESTIC MEASURES.

Common tumblers ..... = 8 to 10 fluid ounces.
Teacups ..... = 5 to 7 "
Wine-glasses ..... = 2 to 2½ "
Tablespoons ..... = half a "
Dessertspoons ..... = 2 fluid drachms.
Teaspoons ..... = 1 "

THE METRIC SYSTEM.

MEASURES OF WEIGHT.

1 Millogramme	=	0.001	gramme	=	0.015432 grains.
1 Centigramme	=	0.01	"	=	0.15432 "
1 Decigramme	=	0.1	"	=	1.5432 "
1 Gramme	=	1.0	"	=	15.432 "
1 Decagramme	=	10.0	"	=	0.022046 lbs.
1 Hectogramme	=	100.0	"	=	0.22046 "
1 Kilogramme	=	1000.0	"	=	2.2046 "

MEASURES OF CAPACITY.

1 Millitre	=	1	gramme of water	=	0.0610 cubic in.
1 Centilitre	=	10	" "	=	0.610 "
1 Decilitre	=	100	" "	=	6.10 "
1 Litre	=	1000	" "	=	61.0 "

MEASURES OF LENGTH.

1 Millimetre	=	0.001	metre	=	0.03937 English inch.
1 Centimetre	=	0.01	"	=	0.3937 " "
1 Decimetre	=	0.1	"	=	3.937 " "
1 Metre	=	1.0	"	=	39.37 " "
1 Decametre	=	10.0	"	=	32.80 " feet.
1 Hectometre	=	100.0	"	=	328.08 " "

LAWS OF CHEMICAL INCOMPATIBILITY.

I. Two salts in solution may form by the interchange of their acids and bases two insoluble salts which are precipitated, or a soluble and insoluble salt; the latter will generally be precipitated, or may form with the soluble salt a double salt.

II. When two salts in solution do not give rise to an insoluble salt, no precipitate will result, though there may be decomposition.

III. An acid will decompose a salt—

(*a*) If the acid added be more fixed or more soluble than that of the salt.

(*b*) If the acid added can form an insoluble or less soluble compound with the base of the salt.

(*c*) If the acid added possesses a greater affinity for the base of the salt.

(*d*) If the acid of the salt be gaseous.

FOR MAKING ANY QUANTITY OF SOLUTION WHEN STATED IN PARTS PER THOUSAND, HUNDRED, ETC.

To make a solution of.....	For each 1 fl. oz. of water take of the drug or salt.	For each 2 fl. ozs. of water take of the drug or salt.	For each 3 fl. ozs. of water take of the drug or salt.	For each 4 fl. ozs. of water take of the drug or salt.	For each 5 fl. ozs. of water take of the drug or salt.	For each 10 fl. ozs. of water take of the drug or salt.	For each 16 fl. ozs. of water take of the drug or salt.
	Grains.	Grains.	Grains.	Grains.	Grains.	Grains.	Grains.
1 in 1,000.....	.4557	.9114	1.3671	1.8228	2.278	4.557	7.291
1 in 500.....	.9114	1.8228	2.7342	3.6456	4.557	9.114	14.582
1 in 400.....	1.139	2.278	3.4177	4.557	5.695	11.392	18.228
1 in 300.....	1.519	3.035	4.557	6.076	7.59	15.19	24.304
1 in 200.....	2.2785	4.557	6.8355	9.114	11.39	22.785	36.456
1 in 100.....	4.557	9.114	13.671	18.228	22.785	45.57	72.912
1 in 50.....	9.114	18.228	27.342	36.456	45.57	91.14	145.824
1 in 25.....	18.228	36.456	54.684	72.912	91.14	182.28	291.648
1 in 10.....	45.570	91.140	136.710	182.280	227.85	455.70	729.120
1 in 5.....	91.14	182.28	273.42	364.56	455.7	911.4	1458.24

To make	For each 1 fl. oz. of water take of the drug or salt.	For each 2 fl. ozs. of water take of the drug or salt.	For each 3 fl. ozs. of water take of the drug or salt.	For each 4 fl. ozs. of water take of the drug or salt.	For each 5 fl. ozs. of water take of the drug or salt.	For each 10 fl. ozs. of water take of the drug or salt.	For each 16 fl. ozs. of water take of the drug or salt.
	Grains.	Grains.	Grains.	Grains.	Grains,	Grains.	Grains.
1 per cent	4.557	9.114	13.671	18.228	22.785	45.57	72.912
2 per cent	9.114	18.228	27.342	36.456	45.570	91.14	145.824
3 per cent	13.671	27.352	41.013	54.684	68.355	136.71	218.416
4 per cent	18.228	36.456	54.684	72.912	91.14	182.28	291.648
5 per cent	22.785	45.57	68.355	91.14	113.925	227.85	364.56
10 per cent	45.57	91.14	136.71	182.28	227.85	455.7	729.12
15 per cent	68.355	136.71	205.065	273.42	341.775	683.55	1093.68
20 per cent	91.14	182.28	273.42	364.56	455.70	911.4	1458.24
25 per cent	113.925	227.85	341.775	455.70	569.625	1139.25	1822.80
40 per cent	182.28	364.56	546.84	720.12	911.4	1822.8	2916.48

ANIMAL NOMENCLATURE.

[Condensed from a paper by R. S. Huidekoper, M.D., Veterinarian. Read before the U. S. V. M. Association, Sept. 16, 1891.]

With the domesticated animal, custom has established certain specific terms which define species, sex and age, and these should be used according to their exact meaning, and with no other meaning, so far as possible, in all expert writings.

GENUS EQUUS; *Species caballus.* Specific term, Horse. The animal is, viz.: a *Foal*, irrespective of sex, from birth until weaned; a *Weanling*, when weaned until a *Yearling*. The male animal is, viz.: a *Colt*, until the mouth is made or until castrated; custom has, however, accepted the first indication of the corner teeth, or four years, as the age at which he becomes a horse; a *Gelding*, after castration, at any age; a *Horse* or *Stallion* after the mouth is made, or earlier if he stands for service; a *Ridgling*, if one testicle has not descended to the scrotum. The female is, viz.: a *Filly*, until the mouth is made, or until bred; a *Mare*, after the mouth is made, or sooner if bred.

Species asinus. Specific term, Ass. The ass is, viz.: a *Foal*, until weaned; after that the male animal is a *Jack*, the female a *Jenny*. The male mule is known as a *Jack Mule*, irrespective of gelding, and the female as a *Jenny Mule*. The hybrid foal of the male ass and the mare is the true mule. That between the stallion and the female ass is called the *Hinny*.

GENUS BOS; *Species domesticus.* Specific term, Neat Cattle. The animal is, viz.: a *Calf* until six months old (the natural time for weaning); a *Bullock* is a young bull, or any male of the ox kind; a *Bull* is the male animal; a "*Steer* is the castrated male of neat cattle. He is called an ox-calf or bull-calf until he is twelve months old, a steer until he is four years old, and after that an ox or bullock."—*Youatt.* An *Ox* (*vide*) "steer;" a *Stag* is a castrated male: a *Heifer* is the female until bred, or until the mouth is made; a *Cow* is the female after breeding, or when the mouth is made.

GENUS OVIS; *Species aries.* Specific term, Sheep. The animal is, viz.: a *Lamb* until a year old: a *Ram* or a *Tup* when male over eighteen months old, and has its first intermediate permanent teeth; a *Ewe* when female over eighteen months old, and has its first intermediate teeth; a *Wether*, when a castrated male; a *Hogget* is the young sheep before it has been shorn.

GENUS CAPRA; *Species hircus.* Specific term, Goat. The animal is, viz.; a *Kid* until a year old. a *Billy* is the male, a *Nanny* the female.

GENUS SUS; *Species scrofa.* Specific term, Swine, Pigs, Hogs. The animal is, viz.: a *Suckling* until weaned; a *Roaster* from four until eight weeks old; a *Pig* until a year old, male or female; a *Porker*, *Porket* or *Porkling* is a young hog or pig; a *Boar* is the adult male; a *Sow*, the adult female; a *Shoat*, *Shote* or *Shoot* is a growing hog: a *Barrow* is a castrated hog; a *Farrow* is a litter of pigs.

GENUS CANIS; *Species domesticus.* Specific term, Dog. A *Puppy* is the young; a *Dog* is the male; a *Bitch* or *Slut* the female (the former term is preferable).

GENUS GALLUS; *Species domesticus.* Specific term, Chickens, Barnyard Fowls, Pullail. A *Cock* is the male; a *Cockerel* is a young cock; a *Stag* is a young game cock; a *Capon* is a castrated male; a *Hen* is the female; a *Pullet* is the young female; *Poultry* are the fowls fed for the table.

WEIGHT OF VARIOUS STYLES OF HORSES.

Ponies are under	800 lbs.
Light roadsters	950 "
Ordinary roadsters and saddle horses	950 to 1,150 lbs.
Coach horses	1,000 to 1,350 "
Light draught horses	1,000 to 1,350 "
Medium draught horses	1,350 to 1,500 "
Heavy draught horses	1,500 and over.

With a severe fever or other illness, a horse may lose 25 lbs. to 40 lbs. a day; 200 lbs. in a week.

Week beginning *189*

CLIENTS' NAMES.	Su.	M.	Tu.	W.	Th.	F.	S.	MI

Week beginning 189

CLIENTS' NAMES.	Su.	M.	Tu.	W.	Th.	F.	S.	M

Week beginning *189*

CLIENTS' NAMES.	Su.	M.	Tu.	W.	Th.	F.	S.	MED

Week beginning *189*

CLIENTS' NAMES.	Su.	M.	Tu.	W.	Th.	F.	S.	MED

Week beginning *189*

CLIENTS' NAMES.	Su.	M.	Tu.	W.	Th.	F.	S.	MI

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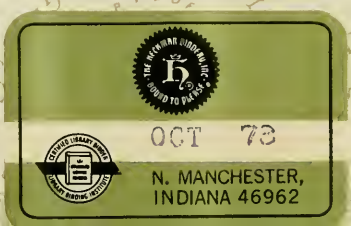

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